BTEC Assignment Brief

Qualification	Pearson BTEC Level 3 National Extended Diploma in Manufacturing Engineering (1080 GLH) 601/7589/8 Pearson BTEC Level 3 National Extended Diploma in Aeronautical Engineering (1080 GLH) 601/7585/0 Pearson BTEC Level 3 National Extended Diploma in Engineering (1080 GLH) 601/7588/6 Pearson BTEC Level 3 National Diploma in Engineering (720 GLH) 601/7580/1 Pearson BTEC Level 3 National Diploma in Manufacturing Engineering (720 GLH) 601/7582/5 Pearson BTEC Level 3 National Diploma in Aeronautical Engineering (720 GLH) 601/7577/1
Unit number and title	Unit 47 – Composites Manufacture and Repair Processes
Learning aim(s)	**C:** Carry out processes to manufacture and repair FRP composite components
Assignment title	Manufacturing and Repairing FRP Composite Components
Assessor	
Hand out date	
Hand in deadline	

Vocational Scenario or Context	***[Delete all italic red text before issue to the learners]*** The benefits of using composite materials over traditional materials has become increasingly apparent in many engineering applications. This has led to them being used more frequently in different engineering sectors including automotive to aerospace and power generation. You are working as a trainee engineer in [*insert company name*] which has been tasked by a company to produce a prototype composite component using an appropriate method. You will go on to repair the surface damage and through-hole damage in the component. ***Note to assessor*** ***A sensible approach to the assessment of this learning aim would be to ask the learners to manufacture and repair one of the components detailed in the AAB for LA B. Using this approach, the learners would investigate possible manufacturing techniques and then manufacture one of the components.***
Task 1	Manufacture safely, accurately and effectively a *[insert the name of a simple composite component and where possible provide different learners with different components]* using either the wet layup or dry layup process. You must keep a well-structured and neat portfolio of

	evidence including a log of all activity carried out, photographs, and records of inspection/testing, as evidence that the work is your own. You will also need to detail how the manufacturing process was refined as you worked to help ensure that the component was manufactured safely, accurately and effectively. After you have manufactured the composite component, your **Assessor** will damage the component and return it to you to undertake a surface repair and a through-hole repair. You must keep a well-structured and neat portfolio of evidence including a log of all activity carried out, photographs, and records of inspection/testing, as evidence that the work is your own. You will also need to detail how the repair was refined as you worked to help ensure that the component was repaired safely, accurately and effectively.
Checklist of evidence required	Physical artefact Written portfolio of evidence with annotated photographs and sketches. Observation record

Criteria covered by this task:	
Unit/Criteria reference	To achieve the criteria you must show that you are able to:
C.D3	Refine, during the process, the wet or dry lay-up manufacture and the repair of surface and through-hole damage of FRP composite components safely, effectively and accurately.
C.M5	Complete the repair safely and accurately of both surface and through-hole damage to FRP composite components.
C.M4	Manufacture safely and accurately an FRP composite component using a wet or dry lay-up process.
C.P4	Manufacture safely an FRP composite component using a wet or dry lay-up process.
C.P5	Complete the repair safely of both surface and through-hole damage to FRP composite components.